MONTANA
DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

FUELS FOR SCHOOLS AND BEYOND
COMMUNITY WOOD ENERGY PROGRAM

WOODY BIOMASS ENERGY PRELIMINARY FEASIBILITY ASSESSMENT GRANTS

ANNOUNCEMENT AND REQUEST FOR APPLICATIONS

RELEASE DATE: NOVEMBER 7, 2012

OPEN APPLICATION

SUBMIT APPLICATIONS TO:

Julie Kies
Forestry Division
Montana Department of Natural Resources and Conservation
2705 Spurgin Rd. Missoula, MT 59804-3199

PURPOSE

The purpose of the Woody Biomass Energy Preliminary Feasibility Assessment Grants is to provide financial incentive for public and non-profit facilities to hire the services of a qualified firm to conduct a preliminary feasibility assessment of integrating a woody biomass energy system.

The objective of a Preliminary Feasibility Assessment (PFA) is to provide the facility manager with preliminary information regarding the technical and economic viability of installing a wood biomass energy system. The PFA is intended to be an *introductory step* for facilities. This approach to assessing projects in stages, beginning with a *preliminary* feasibility assessment, provides a low cost option to better identify the most viable projects to move forward with a more in depth, investment-grade assessment. The PFA will provide general information and direction to the facility managers, assisting them to make a decision on whether to proceed with further analysis and/or project design and installation. The PFA will mostly focus on evaluating the economic viability of a project, while providing a brief summary of technology and integration options, opportunities and challenges. A typical PFA includes a brief description of the facility heating system, energy usage analysis, breakdown of estimated total project costs, and a life-cycle cost analysis including estimated payback period.

Facilities approved for this funding will be required to select and hire an analyst from the list of firms pre-qualified by the Montana Department of Natural Resources and Conservation (DNRC), provided as Attachment A, which is incorporated herein by reference. Hired analysts will complete preliminary feasibility assessments for wood biomass energy system installations at approved facilities. The minimum scope of work to be provided by the analyst through this DNRC program is attached as Attachment B: Scope of Work, which is incorporated herein by reference.

Woody biomass energy projects will benefit Montana by increasing utilization of forest biomass, reducing costs of treating hazardous fuels, improving forest conditions, providing a more diversified forest product market, retaining jobs in the wood products industry, enhancing economic development opportunities, reducing air emissions from open slash-pile burning, reducing dependence of fossil-fuel based energy sources, and reducing energy costs for facilities.

BACKGROUND

The DNRC manages a Biomass Utilization and Community Wood Energy Program (formerly Fuels for Schools and Beyond) designed to promote and facilitate the utilization of woody biomass for value-added markets including energy. As an incentive for biomass energy installations, the DNRC program offers funding assistance for preliminary feasibility assessments to public and non-profit facilities. Since 2003, the DNRC has sponsored over 60 feasibility assessments at public facilities and provided grant funding to assist in the design and construction of 14 projects in Montana. There continues to be interest from additional facilities at varied scales in Montana who have limited resources with which to evaluate project feasibility.

GENERAL GUIDELINES AND INSTRUCTIONS

ELIGIBLE APPLICANTS

Eligible applicants are public and non-profit facilities. This may include school districts, universities, hospitals, state, local and tribal governments, communities, and non-profit organizations.

ELIGIBLE ACTIVITIES

Hire the services of a pre-qualified analyst to conduct a preliminary feasibility assessment for integrating a woody biomass energy system at proposed facility.

APPLICATION PROCESS

Applications will be processed as received on a rolling basis. Applications are evaluated on a first-come, first-served basis.

1. Applicant submits completed Preliminary Feasibility Assessment (PFA) Application Form (Attachment C, which is incorporated herein by reference) to DNRC with cover letter. DNRC may request additional information pertinent to the application.

2. DNRC conducts a pre-screening of each PFA application to determine the potential likelihood of economic viability for a wood biomass energy system installation at the proposed facility and whether it warrants a PFA by a professional firm.

   Factors evaluated in the pre-screening include:
   - Installation is proposed for a new facility construction project.
   - Facility has a high heat demand, which may also include demand for domestic hot water.
   - Facility has relatively high heating costs.
   - Facility has an existing centralized (steam/hydronic) heat distribution system.
   - The current boiler system is old and due for replacement.
   - The estimated cost/btu of wood fuel is less than current cost of fossil fuel/btu.
   - Facility is in proximity to a wood fuel source with a reasonable delivered cost.
   - There is space available on site for a biomass boiler, fuel storage, and access for delivery trucks.

NOTIFICATION AND GRANT AWARD

Applicants will be notified of DNRC's decision within 3 weeks of DNRC's receipt of complete application materials. Applicants not selected to move forward will be notified of the decision and the reason for denial.

DNRC anticipates signing grant agreements with successful applicants within an additional 3 weeks. The grant agreement will detail the payment and reporting requirements of the grant award. Grant payments will be issued as a single reimbursement check upon the DNRC's receipt of the grantee's final report. The final report will provide detail on the project's expenditures, contractor used, the final assessment, and a report of the grantee's planned next steps given the results of the assessment.

FUNDING AVAILABLE

DNRC will award, on a reimbursement basis, the full cost of the PFA, not to exceed $3,500.00. The DNRC reserves the right to offer a different grant amount than proposed by applicants. The applicant is responsible for covering any cost above $3,500.00. Applicants must consult with the DNRC before incurring any expenses, as pre-award costs are not allowed without written approval from DNRC.

GUIDELINES FOR APPROVED PROJECTS AND SCOPE OF WORK

1. Upon project approval, DNRC requires that the approved facility select and hire a firm from the list of pre-qualified analysts to conduct the assessment.

2. It is the responsibility of the facility to contact the analyst, and negotiate full scope of work and rates. In accepting grant funding from DNRC, the facility is required to hire the analyst to perform the minimum scope of work detailed by DNRC in Attachment B: Scope of Work. If the facility wants an assessment above and beyond the scope of the basic PFA provided by the DNRC Program, the facility may be responsible for covering additional costs.

3. Once an analyst is selected by a facility and cost of services is determined, the facility will submit the name of selected firm and cost of services to DNRC in order for DNRC to establish the grant award amount. DNRC will create a grant agreement with the facility to reimburse applicants for the full cost of the pre-feasibility assessment, not to exceed $3,500.00. DNRC anticipates signing agreements with successful applicants within 3 weeks of project approval

In accordance with Montana Code Annotated section 49-3-207, the grantee agrees that the hiring of persons to perform work on the project will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing work on the project.

SUBMISSION GUIDELINES

Applications will be processed as received on a rolling basis. Applications are evaluated on a first-come, first-served basis.

Application must include:

- Cover Letter. Describe applicant's interest in a wood biomass energy installation including potential benefits to the facility and community.

- Completed Preliminary Feasibility Assessment Application Form (Attachment C)
  - Include a copy of a recent bill for each utility account requested in Sec. VIII of the Application Form.

Submit Application to:

Julie Kies, DNRC- Forestry Division Office, 2705 Spurgin Rd., Missoula MT 59804-3199.

LEGAL AUTHORITY

The DNRC Biomass Utilization Program and related activities, including this Request for Proposals, are authorized by Montana Code Annotated, sections 2-15-112, 18-4-304, and 76-13-136.

Funding for the grants is awarded under the authority of the Department of Defense and Full-Year Continuing Appropriations Act, 2011, Public Law 112-10, as amended. The Federal Financial Assistance Award Number of the federally awarded funds to the DNRC is Grant # 11-DG-11010000-030. The Catalog of Federal Domestic Assistance Number is 10.672.

CONTACT

For further information in completing your application, contact:

Julie Kies
Biomass Utilization Program, DNRC
2705 Spurgin Road
Missoula, MT 59804-3199
Phone: (406) 542-4280
jkies@mt.gov

ATTACHMENTS

Attachment A: List of Pre-Qualified Biomass Energy Analysts
Attachment B: Scope of Work
Attachment C: Preliminary Feasibility Assessment Application Form

ATTACHMENT A

Pre-Qualified Biomass Energy Analysts
for
Montana DNRC Biomass Energy Pre-Feasibility Assessment Grant Program
(Updated May 18, 2012)

The following firms are currently pre-qualified to conduct preliminary feasibility assessments for wood biomass energy installations under the Montana DNRC Biomass Energy Pre-Feasibility Assessment Grant Program. Facilities awarded a Pre-Feasibility Assessment Grant under this program are required to select an analyst from this listing.

	SERVICES PROVIDED										TECHNOLOGIES EXPERIENCED WITH									SECTORS SERVED					
FIRM NAME	**PRE-FEASIBILITY ASSESSMENTS FOR BIOMASS ENERGY**	**INVESTMENT-GRADE ASSESSMENT FOR BIOMASS ENERGY**	**BIOMASS FUEL SUPPLY ASSESSMENT**	**BIOMASS ENERGY SYSTEM MANUFACTURER/DISTRIBUTOR**	**ENERGY ANALYSIS**	**MECHANICAL ENGINEERING**	**ENGINEERING/DESIGN**	**INSTALLATION**	**COMMISSIONING**	**FINANCING**	**HVAC**	**HYDRONIC**	**STEAM**	**FORCED AIR**	**AUTOMATED WOOD CHIP-TYPE SYSTEM**	**WOOD PELLET FURNACE/BOILER**	**INDOOR CORDWOOD**	**OUTDOOR CORDWOOD**	**COMBINED HEAT AND POWER SYSTEMS**	**SCHOOLS**	**HEALTH CARE**	**GOVERNMENT**	**NON-PROFITS**	**RESIDENTIAL**	**COMMERCIAL**
Axmen Energy Group	X	X	X	X	X		X	X	X		X	X		X	X	X	X	X	X	X	X	X	X	X	X
Biomass Energy Resource Center	X	X	X		X				X		X	X	X	X	X	X	X	X	X	X	X	X	X		X
CTA Architects Engineers	X	X			X	X	X		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Honeywell Int'l, Inc.	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X		X
Precision Energy Services, Inc.	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X			X	X	X	X	X		X
Radiant Engineering, Inc.	X	X		X	X	X	X	X	X		X	X		X	X	X	X	X		X	X	X	X	X	X
Sustainability, Inc.	X	X	X	X	X	X	X				X	X	X	X	X	X		X	X	X	X	X	X		X
Tetra Tech	X	X	X		X	X	X	X	X	X	X		X	X	X	X			X	X	X	X	X	X	X
Wisewood, Inc.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X	X

Pre-Qualified Biomass Energy Analysts
for
Montana DNRC Biomass Energy Pre-Feasibility Assessments
(Updated May 18, 2012)

Axmen Energy Group
Contact: Aaron Hanson
7655 Highway 10 West
Missoula, MT 59808
406-239-5184
aaron@axmen.com

Biomass Energy Resource Center
Adam Sherman
128 Lakeside Ave. Suite 401
Burlington, VT 05401
(802) 658-6060 x7863
asherman@biomasscenter.org

CTA Architects Engineers
Contact: Nathan Ratz
306 West Railroad Avenue, Suite 104
Missoula, Montana 59802
406-728-9522
nathanr@ctagroup.com

Honeywell International, Inc.
Contact: Thomas Monter
301 E. Buckles Rd.
Hayden, Idaho 83835
Voice: 208-772-1780
Cell: 208-651-7254
thomasmonter@honeywell.com

Precision Energy Services, Inc.
Contact: Mike Oswald
PO Box 1004
Hayden, Idaho 83835
208-772-4457
oswaldmw@pes-world.com

Radiant Engineering, Inc.
Contact: Robert Knebel, PE
501 E. Peach St. Suite A
Bozeman, Montana 59715
406-587-3442
bobk@radiantengineering.com

Sustainability, Inc.
Alaska Wood Energy Associates
Contact: William A. Wall
PO Box 988
Seeley Lake, Montana 59868
Office: 406-677-5006
Cell: 406-210-9984
williamwall11@gmail.com

Tetra Tech
Contact: Jeff Coombe
1099 18th Street Suite 580
Denver, CO 80202
303-291-6268
jeff.coombe@tetratech.com

Wisewood, Inc.
Contact: Andrew Haden
PO Box 28357
Portland, Oregon 97228
503-608-7366
andrew@wisewood.us

Montana DNRC Forestry Division is accepting qualifications from additional firms up to April 30, 2013 and will update the pre-qualified analyst list twice per year in May and November. Request for Qualifications details here: http://dnrc.mt.gov/forestry/Assistance/Biomass/default.asp.

ATTACHMENT B

SCOPE OF WORK

Pre-qualified energy analysts will conduct the following Scope of Work for the pre-feasibility assessment:

1) Initial Facility Review

a) Review facility information provided in DNRC application (furnished by DNRC or facility)
b) Verify facility information as needed via correspondence with facility
c) Investigate the current heating system to determine steps to integrate a biomass system
d) Work with facility staff to understand their needs and existing issues related to the heating and cooling system

2) Preliminary Site Investigation to include the following:

a) Available space (within existing structures or space for newly constructed building)
b) Street access and space available for fuel storage and deliveries
c) Any building or site constraints (i.e. topography, permitting, historical preservation, etc.)
d) Estimate proper size of biomass heating system to meet needs of facility
e) Based on site information gathered, formulate options for installing a biomass energy system. This may include generating an assessment of a few project options and/or scenarios for different types of technologies, wood fuels and/or financial scenarios.

3) Preliminary Cost Estimating

Provide *preliminary* cost estimates for installing a biomass energy system on site. Total project cost estimates will include, at a minimum, cost breakdown of:

a) design and engineering,
b) fees and permitting,
c) mechanical integration to existing or new HVAC system,
d) biomass energy unit (boiler or furnace package),
e) structure to house biomass energy unit, conveyance and fuel storage (as needed),
f) emission controls (if required)
g) other equipment, materials, and construction costs.

4) Economic Analysis

30 year life cycle cost analysis that incorporates, at a minimum:

a) Baseline data on existing heating system (i.e. fossil fuel costs/unit, average annual fuel usage, average annual heating costs)
b) Projected volume of wood fuel required to meet heat demand
c) Estimated wood fuel cost per unit and annually
d) Total project cost
e) Projected savings, cash flow analysis and payback schedule

5) Final Report

Final report will include:

a) Executive summary of the preliminary assessment including brief discussion of:
   - the site features and opportunities and obstacles identified
   - the various technology or installation options assessed, if more than one
   - general perspectives of the assessment results, project viability, and recommended next steps

b) Life cycle cost analyses of all assessed options in easy-to-understand spreadsheet formats

6) Submit Final Report to both facility and DNRC

The final report will be submitted to both the facility and DNRC. The analyst will provide 2 hard copies and one electronic copy as PDF to both entities. The analyst may be asked to make a joint presentation to facility staff and DNRC.

ATTACHMENT C

Montana Departmenof Natural Resources and Conservation
Community Wood Energy Program

PRELIMINARY FEASIBILITY ASSESSMENT APPLICATION FORM

COMPLETE THE FOLLOWING INFORMATION:

Date filled out: _____

By (name): _____

Facility Name: _____

City: _____

Applicant's DUNS # _____

Applicant's CAGE Code _____

Principal Contact Person: _____

Mailing Address:

_____

_____

Phone: _____

FAX: _____

Email: _____

I. FACILITY INFORMATION

Check one:

- ❑ Existing Facility
- ❑ New Construction (If new, fill in all available information for the proposed heating system and estimated energy usage.)

Check one:

- ❑ School
- ❑ University
- ❑ Healthcare
- ❑ Government
- ❑ Non-profit
- ❑ Other

Describe: _____

Size of facility: _____sq. ft. heated space

No. of occupants or students _____

Year of construction _____

Years of major renovations _____

No. of floors _____

No. of buildings _____

II. HEATING SYSTEM

Configuration (check one or more):

- ❑ Heating plant in one location
- ❑ Heating plant with exterior wall location?
- ❑ Different heating plants in different locations;

  How many?:_____
- ❑ Individual, room-by-room heating systems
- ❑ Boiler room accessible to semi tractor/trailer vehicles

How is space heat generated? (check all applicable):

	Capacity (BTU or KW)
❑ Hot water boiler	_____
❑ Warm air furnace (in mechanical room)	_____
❑ Gas duct heaters or roof-top systems	_____
❑ Steam boiler	_____

How is heat delivered to rooms? (check all applicable):

- ❑ Hot water
- ❑ Steam
- ❑ Ducted air
- ❑ Electric heat

	Capacity (BTU or KW)
❑ Electric Boiler	_____
❑ Electric baseboard	_____
❑ Electric duct coils	_____
❑ Electric furnace	_____
❑ Heat pumps	_____

Is current heating system due for replacement soon? YES/NO?

III. FUEL SOURCES

What fuels are used? (check all applicable):

- ❑ Natural gas
- ❑ LP gas (propane)
- ❑ No 2 fuel oil/ Diesel
- ❑ Electric
- ❑ Other; Type:_____

Describe fuel storage (number, capacity location of tanks):

_____

_____

Is this fuel also for: ❑ other uses; ❑ just space heat?

IV. DOMESTIC HOT WATER (DHW)

Uses of domestic hot water (check all applicable):

- ❑ Lavatories
- ❑ Kitchen
- ❑ Gym showers: Heavily used? ❑ Yes ❑ No
- ❑ Other large uses:

_____

Type of system (check all applicable):

- ❑ Single tank-type heater
- ❑ Multiple tank-type heaters
- ❑ Off heating boiler, with separate storage tank
- ❑ Hot water generator with separate storage tank
- ❑ Other

Type: _____

What fuels are used? (check all applicable):

- ❑ Natural gas
- ❑ LP gas (propane)
- ❑ Electric
- ❑ No. 2 fuel oil
- ❑ Diesel
- ❑ Other: Type: _____

Describe location of heater(s), including areas/ uses served:

_____

_____

Describe fuel storage (number, capacity, location of tanks):

_____

_____

V. FUEL USAGE AND COSTS (THIS MUST BE COMPLETED IN ORDER FOR APPLICATION TO BE PROCESSED)

How much did you spend on the following fuels last year?

- Natural Gas $_____/year _____ dekatherms (dka)/year
- LP Gas (Propane) $_____/year _____ gallons/year
- No 2 Fuel Oil $_____/year _____ gallons/year
- Diesel $_____/year _____ gallons/year
- Electric $_____/year _____ kilowatt hours (kwH)/year

Attach a copy of a recent bill for each utility account.

VI. CONTROLS

Type of system (check all applicable):

- Thermostats on individual devices, not central control system
- Pneumatic controls system Manufacturer:_____ Approximate Age:_____
- Direct digital control system Manufacturer:_____ Approximate Age:_____

VII. OTHER INFORMATION

Below provide any other information that will help us understand your space heating and DHW systems:

VIII. BUILDING ENVELOPE

❑ Single pane ❑ Double pane glass

Wall type_____ Insulation value _____

Roof type_____ Insulation value _____

IX. WOOD FUEL COSTS (IF KNOWN)

- Wood pellet cost deliverd to school/facility $_____/ton
- Wood chip cost deliverd to school/facility $_____/ton
- Distance to nearest wood pellet and wood chip suppliers?_____
- Can logs or wood fuel be stockpiled on site or at a nearby facility?_____

X. DESCRIPTION OF INTEREST

Submit a cover letter with application form that describes your interest in a wood biomass energy installation including potential benefits to the facility and community.

Submit Application to:

Julie Kies
Montana DNRC
2705 Spurgin Road
Missoula, MT 59804
Phone (406) 542-4280
Fax (406) 542-4217
jkies@mt.gov

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